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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,860	09/25/2003	Koichi Ito	2487	8675

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EXAMINER

CHANG, VICTOR S

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/671,860

Applicant(s)

ITO, KOICHI

Examiner

Victor S. Chang

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-112 is/are pending in the application.
- 4a) Of the above claim(s) 1-5,58-77,82-103,109 and 112 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 52-57,78-81,102,104-108,110 and 111 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Introduction***

1. The Examiner has carefully considered Applicants' amendments and remarks filed on 10/17/2005. Applicants' amendments to claims 52, 78-83 and 85, 86, 88, 89, 91, 92, 94, 95, 97, 98, 100, 101 and 110 have been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Rejections not maintained are withdrawn. In particular, Applicant's amendments are sufficient to overcome the rejection under 35 USC 112, first paragraph, in section 8 of Office action mailed 8/11/2005.

### ***Election/Restrictions***

4. Applicant's election with traverse of species compound (2) polyvinyl alcohol/polyvinyl acetate copolymer in the reply filed on 10/17/2005 (Remarks, page 18) is acknowledged. Upon reconsideration, the species election requirement regarding polyvinyl alcohol and polyvinyl alcohol/polyvinyl acetate copolymer is withdrawn. In summary, the elected claims are 52-57, 78-81, 102, 104-108, 110 and 111.

### ***Claim Objections***

5. Claims 78 and 108 are objected to because of the following informalities:

In view of Applicant's statement "the term "film-forming" has been deleted from claim 78" (Remarks, page 18), the remaining term "film-forming" at line 6 of claim 78 appears to have been overlooked by Applicant.

In claim 108 and corresponding specification, please correct the naming of the weather resistant agent. In particular, "diter" should be corrected as --di-tert--; "3'5'" should be corrected as --3',5'--.

Appropriate corrections are required.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 52, 53, 78, 79, 102, 104, 110 and 111 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior known art (specification, Background of The Invention and Prior Art, pages 1-4) in view of JP 58-98242 (Derwent abstract).

Applicant has admitted in the specification that it is known art that it is advantageous to provide the surface of a polyurethane foam resin with a finished, sealed, protective layer or coating that has flexible and pliant characteristics consistent with the resilient nature of the polyurethane foam. The protective layer is especially important when visual aesthetics become a desirable feature for the end product, and is

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generally accomplished by applying a film or coating of a polyurethane elastomer resin to the surface of the foamed resin product. Suitable applications include the dashboards and seats of automobiles; the packing industry for packaging in containers; household items, such as chairs, cushions, etc. Further, the polyurethane coatings utilize the OH/NCO chemical bond relationship (specification, page 1, line 15 to page 2, line 24).

For claims 52, 53, 78, 79, 102, 104, 110 and 111, while the admitted prior known art is silent about the range of the density of polyurethane foam, it is the Examiner's position that since the admitted prior known art is directed to the same subject matter for the same applications, and the utility as such dictates there would be similar foam density, in the absence of evidence to the contrary, a suitable density is either anticipated by prior known art, or obviously provided by practicing the invention of prior art. It should be noted that where the claimed and prior art products are shown to be identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. See MPEP § 2112.01. As to the –OH reactive group and aromatic isocyanate composition of the coating, it is noted that JP '242 is directed to a polyurethane foam having a polyurethane outer skin for use as a car seat, etc. The outer skin is produced by coating an aqueous urethane solution of polyether or polyester polyol and diphenylmethane diisocyanate, and followed by drying (Derwent abstract). As such, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to incorporate the known polyurethane coating of JP '242

to the admitted known art, as set forth above. It should be noted that the selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination. See MPEP § 2144.07. Finally, it should be noted that, in the absence of the molecular structures of the primary and secondary layers, the polyurethane coating of JP '242 reads on both the primary (including multiple coatings) and secondary layers of the instant invention as *claimed*.

8. Claims 54-57, 80 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior known art (specification, Background of The Invention and Prior Art, pages 1-4) in view of JP 58-98242 (Derwent abstract), and further in view of JP 58092541 (abstract) or DE 2057554 (Derwent abstract).

The teachings of admitted prior known art and JP '242 are again relied upon as set forth above.

For claim 54, it is noted that the admitted prior art and JP '242 lack a teaching of a substantially dry primary layer comprising polyvinyl alcohol or polyvinyl alcohol/acetate copolymer. However, it is noted that JP '541 is directed to a urethane foam having a layer of dried coating of polyvinyl alcohol (preferably a saponified, i.e., hydrolyzed, polyvinyl acetate), for obtaining improved adhesion of the foam surface to other substrates (abstract). Alternatively, DE '554 also teaches that a solid coating of polyvinyl alcohol or partly-hydrolyzed polyvinyl acetate (i.e., polyvinyl alcohol/acetate copolymer) provides a surface for paint (i.e., coating) adhesion (Derwent abstract). As such, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to modify the polyurethane foam of the admitted known art with a

primary layer of dried polyvinyl alcohol or polyvinyl alcohol/acetate copolymer, motivated by the desire to obtain an improved surface for coating a layer of protective polyurethane, and improved adhesion, as taught by JP '541 or DE '554.

For claims 55 and 81, the Examiner notes that since the product-by-process limitation have not been shown on the record to produce a patentably distinct article, the formed articles are rendered *prima facie* obvious.

For claims 56, 57 and 80, the Examiner notes that DE '554 expressly teaches that both polyvinyl alcohol (i.e., fully hydrolyzed polyvinyl acetate) or partly-hydrolyzed polyvinyl acetate (i.e., polyvinyl alcohol/acetate copolymer) are suitable coating for improved adhesion, as set forth above, which, in the absence of unexpected results, obviously encompasses the suitable ranges of the low content of vinyl acetate in the copolymer as claimed. In particular, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

9. Claims 105 and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior known art (specification, Background of The Invention and Prior Art, pages 1-4) in view of JP 58-98242 (Derwent abstract), and further in view of Loew (US 3716502).

The teachings of admitted prior known art and JP '242 are again relied upon as set forth above.

For claims 105 and 106, the admitted prior known art and JP '242 lack a specific teaching of incorporating polycarbodiimide as an anti-hydrolysis agent in the

polyurethane coating. However, it is noted that Loew's invention is directed to a polyurethane elastomer stabilized against hydrolysis, which is a known problem related to polyurethane (column 1, lines 4-9). Loew teaches that polycarbodiimides are known stabilizers against hydrolysis of polyurethane (column 5, lines 1-9). As such, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to incorporate polycarbodiimide in the polyurethane coating of JP '242, motivated by the desire to alleviate a known problem associated with polyurethane materials.

**10.** Claims 107 and 108 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior known art (specification, Background of The Invention and Prior Art, pages 1-4) in view of JP 58-98242 (Derwent abstract), and further in view of Spang et al. (US 4985566).

The teachings of admitted prior known art and JP '242 are again relied upon as set forth above.

For claims 107 and 108, the admitted prior known art and JP '242 lack a specific teaching of incorporating {tetrakis[methylene-3-(3',5'-di-tert-butyl-4'-hydroxyphenyl)propionate]methane} as a weather-resistant agent in the polyurethane coating. However, it is noted that Spang's invention is directed to stabilizers for polymers and coatings (abstract), and Spang teaches that an improved stabilizing effect is obtained on using in addition a known antioxidant of sterically hindered phenols, such as pentaerythritol tetrakis[ $\beta$ -(3,5-di-tert-butyl-4-hydroxyphenyl)propionate], etc. (column 9, lines 44-58). As such, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to incorporate a known sterically hindered



phenol in the polyurethane coating of JP '242, motivated by the desire to improve the weather resistance of the coated polyurethane foam article, such as a car seat.

### ***Conclusion***

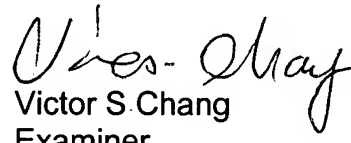
11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S. Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Victor S. Chang  
Examiner  
Art Unit 1771

11/28/05